



COLLAGEN PEPTIDES SUPPLEMENTATION IMPROVES FUNCTION, PAIN, AND PHYSICAL AND MENTAL OUTCOMES IN ACTIVE ADULTS.

Kviatkovsky, SA ; Hickner, RC ; Cabre, HE ; Small, SD ; Ormsbee, MJ
Journal of the International Society of Sports Nutrition. 2023;20(1):2243252

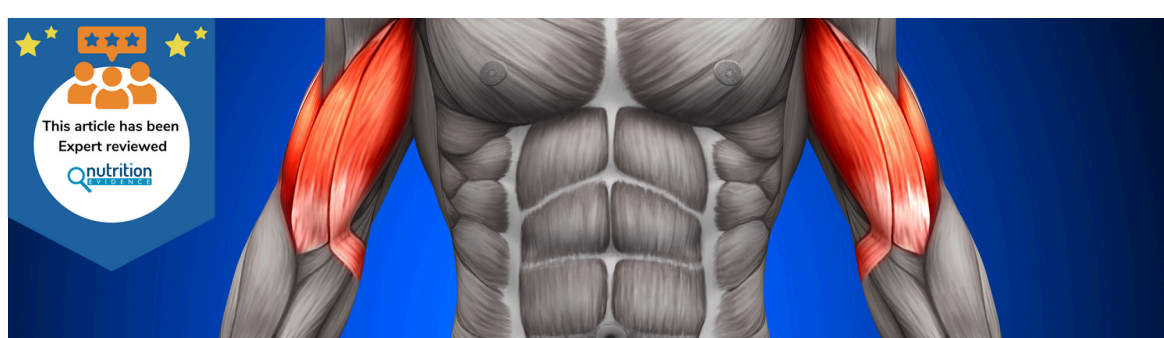
Collagen degrades with ageing, with an increased risk for injuries and pain. It is the predominant component of connective tissue and supplementation has been shown to have beneficial effects on joint pain and inflammation. This randomised control trial aimed to determine the effect of different doses of collagen over 3 different time periods on measures of pain, function, and mental and physical health in 86 active, middle-aged men and women.

The results showed that daily activity was improved when individuals were given 10g/day collagen for at least 6 months. Pain was also improved with this dose for at least 6-months, but only in those who exercised more than 3 hours per week. Mental health improved with 10g/day when given for at least 3-9 months. Physical function was also improved with 20g/day collagen for at least 3-9 months, but only amongst women. It was concluded that 10-20g/day collagen supplementation for at least 6 months may improve pain, functionality, and mental health in healthy, middle-aged men and women. Women may particularly benefit from 20g/day collagen and enhanced effects may be seen when in combination with exercise.

IMPACT OF PROBIOTICS ON MUSCLE MASS, MUSCLE STRENGTH AND LEAN MASS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.

Prokopidis, K ; Giannos, P ; Kirwan, R ; et al.
Journal of cachexia, sarcopenia and muscle. 2023;14(1):30-44
With Expert Review from Anna Papoutsas

Sarcopenia is a progressive skeletal muscle disorder involving accelerated loss of muscle mass, strength and function. As probiotics promote metabolic building activity, aid digestion and absorption and reduce muscle breakdown by managing inflammation, they present great potential for the management of sarcopenia. This systematic review and meta-analysis explored the impact of probiotic supplementation on muscle mass, total lean mass and muscle strength in human adults. The review included 24 studies, with probiotics mainly from the Bifidobacteria or Lactobacilli family. The analysis concluded that probiotic supplementation improved muscle mass in comparison to placebos. It also significantly increased overall muscle strength in 6 randomised controlled trials, which was most obvious in age groups of 50 and above. However, no changes were seen concerning total lean mass. It appeared that longer studies, of >12 weeks or more, showed better outcomes in this review. Furthermore, Bifidobacteria species seemed to exhibit more favourable effects, and the authors also noted the beneficial results were more significant in Asian populations. Further research is needed to understand more about the underlying mechanism, best probiotics strains and the specifics of different demographic groups.



EFFECTS OF WHEY AND SOY PROTEIN SUPPLEMENTATION ON INFLAMMATORY CYTOKINES IN OLDER ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS.

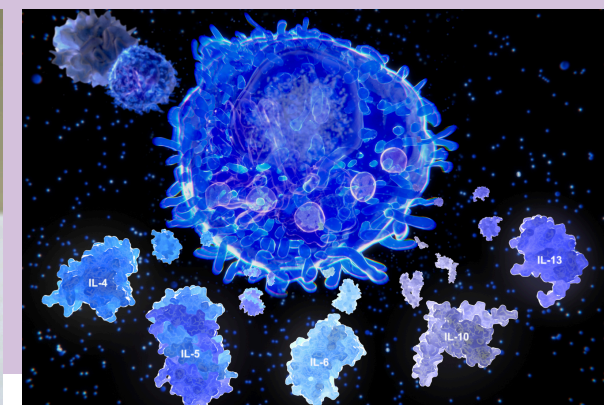
Prokopidis, K ; Mazidi, M ; Sankaranarayanan, R ; et al.
The British journal of nutrition. 2023;129(5):759-770
With Expert Review from Miranda Harris

TAKE HOME MESSAGE:

Consider optimising protein intake and quality of protein through diet as an alternative or first line strategy.

Reduced muscle mass and reduction in physical activity may lead to sarcopenia in older people. Age-related sarcopenia is associated with increased systemic low-grade inflammation and obesity. Previous research has shown that supplementation with isolated whey and soy protein reduces the levels of inflammatory cytokines in older adults. However, there is limited research on intact whey and soy protein supplementation in reducing age-related inflammation.

This systematic review and meta-analysis investigated the effect of intact whey and soy protein on serum inflammatory markers such as C-reactive protein (CRP), Interleukin-6 (IL6) and TNF- α in older adults. The results showed a significant reduction in circulating IL-6 and TNF- α levels. Soy isoflavones resulted in a further decline in serum CRP levels. Subgroup analysis showed that the whey protein supplementation significantly improved sarcopenia and pre-frailty. Further studies are required to assess the anti-inflammatory properties of whey and soy protein due to the high heterogeneity of studies in this review.



EFFECTS OF OMEGA-3 FATTY ACIDS SUPPLEMENTATION ON SERUM LIPID PROFILE AND BLOOD PRESSURE IN PATIENTS WITH METABOLIC SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.

Liu, YX ; Yu, JH ; Sun, JH ; Ma, WQ ; Wang, JJ ; Sun, GJ
Foods (Basel, Switzerland). 2023;12(4)
With Expert Review from Dr Yassine Bendiabdallah

Metabolic syndrome (MetS) is a group of disorders that cause disturbed metabolism, including abdominal obesity, insulin resistance, hypertension, and dyslipidaemia. People with MetS may have a higher risk of coronary heart disease and stroke than those without MetS. Omega-3 polyunsaturated fatty acids (n-3 PUFAs) have cardioprotective, anti-inflammatory, and triglyceride-lowering properties, so they may help treat obesity and improve metabolic syndrome. The aim of this study was to explore the effects of n-3 PUFAs on lipid profile and blood pressure in patients with MetS. This study is a meta-analysis of eight studies. Results show that following supplementation with n-3 PUFAs in patients with metabolic syndrome there were no significant changes in serum total cholesterol, low-density lipoprotein cholesterol and high-density lipoprotein cholesterol. However, there was a significant reduction in serum triglycerides and blood pressure. Authors conclude that n-3 PUFA supplementation may serve as a potential dietary supplement for improving lipids and blood pressure in patients with metabolic syndrome.

